

4.5 PSP Cover Sheet (Attach to the front of each proposal)Proposal Title: ENVIRONMENTAL EDUCATIONApplicant Name: EMCONMailing Address: 1433 NORTH MARKET BOULEVARD SUITE 1Telephone: (916) 928-3300Fax: (916) 928-3341Email: BHeinsch@emconinc.comAmount of funding requested: \$ 161,468 for 2-3 years

Indicate the Topic for which you are applying (check only one box).

- | | |
|--|---|
| <input type="checkbox"/> Fish Passage/Fish Screens | <input type="checkbox"/> Introduced Species |
| <input type="checkbox"/> Habitat Restoration | <input type="checkbox"/> Fish Management/Hatchery |
| <input type="checkbox"/> Local Watershed Stewardship | <input checked="" type="checkbox"/> Environmental Education |
| <input type="checkbox"/> Water Quality | |

Does the proposal address a specified Focused Action? ☒ yes ☐ noWhat county or counties is the project located in? CAL FED BAY-DELTA WATERSHED

Indicate the geographic area of your proposal (check only one box):

- | | |
|---|--|
| <input type="checkbox"/> Sacramento River Mainstem | <input type="checkbox"/> East Side Trib: _____ |
| <input type="checkbox"/> Sacramento Trib: _____ | <input type="checkbox"/> Suisun Marsh and Bay |
| <input type="checkbox"/> San Joaquin River Mainstem | <input type="checkbox"/> North Bay/South Bay: _____ |
| <input type="checkbox"/> San Joaquin Trib: _____ | <input checked="" type="checkbox"/> Landscape (entire Bay-Delta watershed) |
| <input type="checkbox"/> Delta: _____ | <input type="checkbox"/> Other: _____ |

Indicate the primary species which the proposal addresses (check all that apply):

- | | |
|---|---|
| <input checked="" type="checkbox"/> San Joaquin and East-side Delta tributaries fall-run chinook salmon | <input checked="" type="checkbox"/> Spring-run chinook salmon |
| <input checked="" type="checkbox"/> Winter-run chinook salmon | <input checked="" type="checkbox"/> Fall-run chinook salmon |
| <input checked="" type="checkbox"/> Late-fall run chinook salmon | <input checked="" type="checkbox"/> Longfin smelt |
| <input checked="" type="checkbox"/> Delta smelt | <input checked="" type="checkbox"/> Steelhead trout |
| <input checked="" type="checkbox"/> Splittail | <input checked="" type="checkbox"/> Striped bass |
| <input checked="" type="checkbox"/> Green sturgeon | <input checked="" type="checkbox"/> All chinook species |
| <input checked="" type="checkbox"/> Migratory birds | <input checked="" type="checkbox"/> All anadromous salmonids |
| <input type="checkbox"/> Other: _____ | |

Specify the ERP strategic objective and target (s) that the project addresses. Include page numbers from January 1999 version of ERP Volume I and II:

VOL. I - 20, 32, 42, 103, 176, 181, 238, 288, 344, 394, 420, 421, 424VOL. II - 18Native Species Recovery & Conservation, Rehabilitation & Protection of Natural Processes, Habitat Protection & Restoration

Indicate the type of applicant (check only one box):

- | | |
|--|---|
| <input type="checkbox"/> State agency | <input type="checkbox"/> Federal agency |
| <input type="checkbox"/> Public/Non-profit joint venture | <input type="checkbox"/> Non-profit |
| <input type="checkbox"/> Local government/district | <input type="checkbox"/> Private party |
| <input type="checkbox"/> University | <input checked="" type="checkbox"/> Other: <u>PUBLICLY TRADED CORPORATION</u> |

Indicate the type of project (check only one box):

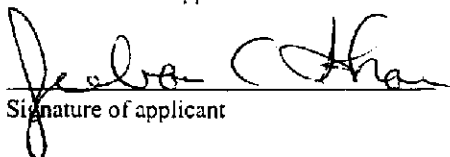
- | | |
|-------------------------------------|---|
| <input type="checkbox"/> Planning | <input type="checkbox"/> Implementation |
| <input type="checkbox"/> Monitoring | <input checked="" type="checkbox"/> Education |
| <input type="checkbox"/> Research | |

By signing below, the applicant declares the following:

- 1.) The truthfulness of all representations in their proposal;
- 2.) The individual signing the form is entitled to submit the application on behalf of the applicant (if the applicant is an entity or organization); and
- 3.) The person submitting the application has read and understood the conflict of interest and confidentiality discussion in the PSP (Section 2.4) and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant, to the extent as provided in the Section.

JULIAN C. ISHAM

Printed name of applicant


Signature of applicant

**ENVIRONMENTAL EDUCATION PROPOSAL
ECOSYSTEM RESTORATION PROJECT AND PROGRAMS**

Primary Contact:

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Bruce McAlister, Ph.D., EMCON

Jeffrey Peterson, Ph.D., EMCON

Leif Joslyn, Xenobiota Xposures

Type of Organization and Tax Status:

Corporation

Tax Identification Number:

94-1738964

Executive Summary for Proposal for Environmental Education

This proposal outlines an educational program to provide increased public awareness of the CalFed Bay-Delta ecosystem. An informed public can be a key factor in restoring ecosystem health and improving water management. The entire Bay-Delta watershed will benefit from this scope of services.

Proposal Goal: To educate the existing and future users of the Bay Delta in order that they may understated the importance of a healthy delta ecosystem.

Proposal Benefits: Once knowledgeable of the problems and what can be done to restore the Bay-Delta, people will be more willing to: 1) conserve water, 2) wisely use potential contaminants within the Bay-Delta watershed, and 3) assist with ecosystem restoration efforts.

Proposal Question: Will education of people ages 12 and up of the importance of a healthy Bay-Delta ecosystem lead to an increase in public support for 1) water conservation, 2) wise use potential contaminants within the Bay Delta watershed, and 3) ecosystem restoration efforts?

The proposed scope of work addresses six educational method summarized as follows:

Task 1 Educational Pamphlet and Task 2 Overheads and Slides - EMCON will prepare an educational pamphlet, overheads, and slides for a presentation to educate children to adults (ages 12 and up) on the problems of the San Joaquin, Sacramento Bay Delta area and what needs to be done to resolve those problems.

Task 3 Speaker For Hire - EMCON will provide staff to those willing to pay for the speaker's time and materials, to present the materials prepared as requested. Both a "train the trainers/trainers" (to educate school teachers, scout leaders, community leaders, etc.) and guest speaker (to talking about CalFed at meetings, associations, etc.) are proposed.

Task 4 Lesson Plan - The lesson plan would be a stand-alone document that incorporates the ideas presented in the Pamphlet and Overheads/Slides. It will include ideas for demonstrations, experiments, worksheets, additional references, and field trips.

Task 5 Video - *Healing the Waters: A Vision for California's Bay/Delta Ecosystems*. The objective would be to impress upon viewers that the vitality and integrity of the Bay Delta ecosystem is our collective responsibility, and to introduce viewers to CalFed Bay-Delta and some of the restoration work under way.

Task 6 Video - *Alien Bullies: Invasive Species in California's Bay Delta Ecosystems*. The objectives of the video would be to impress upon viewers that invasive exotic species (non-native plants, animals, etc.) threaten the vitality and integrity of the bay/delta ecosystems, especially fish habitats.

All the primary biological/ecological objectives of the CalFed Bay-Delta Program can be supported by the implementation of a public education program. The repercussions of an educational program such as this one can have far-reaching positive effects on other goals and objectives of CalFed as well as providing major benefits to any group that is concerned with the human population coexisting with the many fragile ecosystems. The multi-media educational program which EMCON proposes provides the best possible arena for ensuring that the most current, accurate information is passed on to and understood by the largest number of people.

The proposal hypothesis will be monitored by conducting before and after user surveys. It is important for people living within the Bay Delta watershed to be informed on important topics such as this in order

to contribute to problem resolutions instead of contributing to creating additional problems. Thus, by conducting before and after surveys, we will be able to measure progress to obtaining our stated goal.

EMCON provides comprehensive environmental engineering, consulting, and construction management services. The firm is publicly held, and has been developing environmentally safe, technically sound, cost-effective solutions for environmental concerns since 1971. EMCON has successfully solved thousands of environmental problems for a variety of industries, on time and within budget. More than 1,000 technical and support staffpersons serve clients from over 60 offices nationwide. In addition, EMCON has years of practical experience in offering training, and its personnel develop and deliver dozens of training programs each year. EMCON works directly with clients to develop and deliver effective, cost-efficient training programs that incorporate existing plans, procedures, and operational requirements. This project will be staffed with a team of experienced professionals consisting of EMCON employees: Barbara Heinsch, as the Project Manager, JoEllen Strait, Bruce McAlister, and Jefferey Peterson. Lief Joslyn of Xenobiota Xposures will be working with EMCON as the video cinematographer.

EMCON has contacted Ms. Diane Hickson of the California Department of Fish and Game (CDFG) and Mr. Mike Eaton, of the Nature Conservancy and Project Manager of the Consumnes River Preserve. Ms. Hickson indicated that the CDFG would provide information regarding fish and wildlife within the Bay Delta for the preparation of the proposed educational materials as part of their public service program. Likewise, Mr. Eaton indicated that the Nature Conservancy would work with EMCON by allowing us to video tape and/or photograph portions of the Consumnes River Preserve for our educational program. Both parties said their organizations have staff that would be willing to be interviewed for the purpose of providing education on the CalFed Bay Delta ecosystem to people ages 12 and up.

Upon completion of the environmental education program, an announcement/information letter explaining the program and the materials/services available through the program will be sent to select agencies and organizations. The target region will include all areas that are located within the entire Bay-Delta Region. The groups/organizations which EMCON has identified include, but are not limited to, the following: School Districts, County Boards of Supervisors, City Councils, Chambers of Commerce, Community Organizations such as Boy Scout Councils, Rotary Clubs, Watershed groups, etc.

This proposal will not adversely affect third parties but instead will assist others by providing education on the overall CalFed program goals, objectives, and restoration efforts.

Cost: \$161,468

Details are included within the following text and attached Table.

Project Description

This proposal outlines an educational program to provide increased public awareness of the CalFed Bay-Delta ecosystem. The main objective of the CalFed Bay-Delta Program is: "To develop a long-term comprehensive plan that will restore ecosystem health and improve water management for beneficial uses of the Bay-Delta System" An informed public can be a key factor in restoring ecosystem health and improving water management.

Proposal Goal: To educate the existing and future users of the Bay Delta in order that they may understated the importance of a healthy delta ecosystem.

Proposal Benefits: Once knowledgeable of the problems and what can be done to restore the Bay-Delta, people will be more willing to: 1) conserve water, 2) wisely use potential contaminants within the Bay-Delta watershed, and 3) assist with ecosystem restoration efforts.

Proposal Question: Will education of people ages 12 and up of the importance of a healthy Bay-Delta ecosystem lead to an increase in public support for 1) water conservation, 2) wise use potential contaminants within the Bay Delta watershed, and 3) ecosystem restoration efforts?

Proposed Scope of Work

Task 1 Educational Pamphlet and Task 2 Overheads and Slides - EMCON will prepare an educational pamphlet, overheads, and slides for a presentation to educate children to adults (ages 12 and up) on the problems of the San Joaquin, Sacramento Bay Delta area and what needs to be done to resolve those problems. The Pamphlet will include text geared for laypersons written in an easy to follow fashion with diagrams, pictures, and photographs on at least every other page. Both overheads and slides with the same content will be prepared in order to accommodate the preference of the user. By having both a written pamphlet and a visual aid via overheads or slides, teachers can utilize whichever method best works with their students. The information used to develop these materials will likely include: published literature, CalFed documents such as the Ecosystem Restoration Program Plan, interviews with experts such as a Dept. of Fish and Game biologist, Nature Conservancy Preserve personnel, CalFed Program staff, and the Department of Water Resources.

The content of the Pamphlet, Overheads and Slides will be split into three sections: 1) introduction, 2) delta problems and 3) restoration efforts.

1. **Introduction.** A brief introduction to the Bay Delta system will be given to describe what is a delta, what wildlife lives there, why deltas are important, etc.
2. **Delta problems.** The format to present delta problems will be to track a young fish or an empty bottle of some hazardous substance as it begins its journey from a creek to the Bay-Delta. While following the fish on its journey, items such as the following will be described with a combination of text, graphics, photographs and diagrams: 1) How hazardous materials affect the delta ecology, 2) How rivers controlled with levees and dams have disturbed the natural habitats for fish and wildlife, 3) Native species of fish, plants, animals, etc. are being displaced by invasive nonnative species causing damage to the ecosystem of the delta, 4) Low fresh water inflow from the rivers into the delta cause high salinity, 5) A significant percentage of delta wetlands have been filled for development in the Bay Delta.
3. **Restoration efforts.** In this part of the Pamphlet and Overheads/Slides, we would take the very same problems addressed in the first half of the program and discuss restoration efforts or solutions to the problems. In each case, we would provide how the reader could help by such efforts as not flushing their radiator antifreeze into the storm drains, water conservation, planting non invasive

plants, etc. We will also give examples of what efforts CalFed and others are doing to restore wetlands, etc. such as the Nature Conservancy Consumnes Preserve, the California Department of Fish and Game, etc.

Task 3 Speaker For Hire - EMCON will provide staff to those willing to pay for the speaker's time and materials, to present the materials prepared as requested. Two types of speakers would be available: (1) "train the trainers/trainers" - educate school teachers, scout leaders, community leaders, etc. on the use of the materials and how to teach students/members of their specific group and (2) guest speaker at meetings, classes, etc. to give the presentation itself.

Task 4 Lesson Plan - The lesson plan would be a stand-alone document that incorporates the ideas presented in the Pamphlet (Task 1) and Overheads/Slides (Task 2). It will include ideas for demonstrations, experiments, worksheets, additional references, and field trips.

Task 5 Video - *Healing the Waters: A Vision for California's Bay/Delta Ecosystems*. The objective would be to impress upon viewers that the vitality and integrity of the Bay Delta ecosystem is our collective responsibility, and to introduce viewers to CalFed Bay-Delta and some of the restoration work under way. The video would present a live version of the fish or bottle on its journey (as described in Task 1) with footage of the Consumes River Preserve, interviews with the CDFG, and some animated graphics as needed. Figure 1, a flow chart of the proposed video treatment, is included at the end of this section. This video would be approximately 24 minutes in length.

Task 6 Video - *Alien Bullies: Invasive Species in California's Bay Delta Ecosystems*. The objectives of the video would be to impress upon viewers that invasive exotic species (non-native plants, animals, etc.) threaten the vitality and integrity of the bay/delta ecosystems, especially fish habitats. Non native submerged aquatic plant such as *Egeria densa* clog up river ways, and displace the native plant habitat thus depriving spawning and feeding areas for fish and wildlife. The video would introduce viewers to some of the Bay Delta native plant and animal restoration efforts such as of ballast water regulations and the 100th Meridian Project (to keep out the zebra mussel). Cooperative control efforts like Team Arundo Del Norte will be described and volunteerism will be encouraged (*Arundo donax* is a non native riparian plant). Figure 2 is a flow chart of the proposed video treatment and is included at the end of this section. This video would be approximately 24 minutes in length.

Tasks and Deliverables

TASK	DELIVERABLE
Design, Prepare, Produce, and Distribute Pamphlet	<ul style="list-style-type: none"> • Draft Pamphlet for CalFed Review • 500 Pamphlets distributed to various school districts, counties, environmental agencies throughout CalFed Bay Delta Region
Design, Prepare, Produce, and Distribute Overheads/Slides	<ul style="list-style-type: none"> • Draft Overheads/Slides for CalFed Review • Make Overheads/Slides made available via CalFed's Web page for trainers to print themselves • Mail copies (budgeted 250 sets slides, 250 sets overheads) as requested to various school districts, counties, environmental agencies throughout CalFed Bay Delta Region
Assign staff to act as speakers to 1) "train the trainers" and to 2) be a guest speaker at various groups	<ul style="list-style-type: none"> • Provide speakers to train-the-trainer on CalFed issues (school teachers, scout leaders, community leaders) • Provide guest speakers to talk about the CalFed program (associations, clubs, etc.)

TASK	DELIVERABLE
Design, Prepare, Produce, and Distribute Lesson Plan	<ul style="list-style-type: none"> • Draft Lesson Plan for CalFed Review • 100 Lesson Plans distributed to various school districts, counties, and environmental agencies throughout CalFed Bay Delta Region.
Prepare a Video on the Bay Delta and its Restoration Program	<ul style="list-style-type: none"> • Draft video outline and video text for CalFed Review • 300 videos for distribution to various school districts, counties, environmental agencies throughout CalFed Bay Delta Region
Prepare a Video on the Bay Delta Problems due to Non native Animals and Plants in the Restoration Efforts	<ul style="list-style-type: none"> • Draft video outline and video text for CalFed Review • 300 videos for distribution to various school districts, counties, environmental agencies throughout CalFed Bay Delta Region

Project Phases and Timetables

Figure 3 assumes a project start date of July 19, 1999. If the initial start date changes the rest of the project must be adjusted accordingly.

Project management

Ms. Barbara Heinsch will be the project manager to work with CalFed Bay-Delta program staff. The project manager will handle all interaction with CalFed regarding project management, such as resources allocated, detailed project plans, quarterly progress reports, and budget tracking.

Project Priority

Task 1 (pamphlets) and Task 2 (overheads and slides) are the highest priority for the proposed scope of work. By providing these basis forms of teaching aids to ages 12 and up, the goal of this proposal can begin at its basic level. Adding any and or all of the other proposed tasks, Task 3 (speakers), Task 4 (lesson plans) and Tasks 5 and 6 Videos will provide more well rounded training to those who are provided these services. The best method of learning varies for each individual: visual (overheads, slides, videos), audio (speakers, videos) and hands-on experience (lesson plans) all are important teaching mechanisms. However, we all seem inherently to understand the best way to educate is repetition. Thus, exposing community members, students, environmental groups, and other laypersons via many different media to learn about this important subject matter will greatly increase the likelihood of "getting the message across".

Geographic Boundaries of the Project

This project will primarily target the school districts, environmental groups, counties, watershed associations, etc. within the boundaries of the CalFed Bay Delta region (see Figure 4). However, if groups outside this defined area request this information or these services provided, we feel that everyone would benefit.

Ecological/Biological Benefits

All the objectives of the CalFed Bay-Delta Program (ecological/biological) will benefit by increased public awareness brought about through education. If one goal/objective was to be singled out as the main beneficiary of an educational program, it would probably be the mission statement which reads "The mission of the CalFed Bay-Delta Program is to develop a long-term comprehensive plan that will restore ecosystem health and improve water management for beneficial uses of the Bay-Delta System" (Ecosystem Restoration Program Plan Volumes 1 and 2, page 1). An informed public can be a key factor in restoring ecosystem health and improving water management. An environmental education program is unique in its capability of indirectly supporting all of CalFed's Strategic Plan Goals. Properly designed and successfully implemented this program can: 1) educate the public on the basic characteristics of the delta and associated life forms; 2) increase public awareness of the delta ecosystem; and 3) generate an enthusiasm for individuals to use, protect, and enjoy this unique ecosystem in a way that will ensure its continued existence for many years.

Nature of Benefits

The specific benefits to the Bay-Delta that will arise from an educational program would be 1) an increase in public concern; and 2) the knowledge of appropriate "delta-supportive" activities. EMCON's program is based on the premise that only informed individuals can help preserve the Bay-Delta. Therefore, knowledge and awareness will help protect all life associated with the Bay-Delta, and the entire ecosystem in general. Individuals are frequently unaware of the impact of their actions, which is often the result of a lack of knowledge or misinformation, as opposed to malicious intent. When a person is shown how to preserve the natural environment, the goals and objectives become personalized and are more likely to be achieved. A person is made aware that the actions of an individual can have significant, far-reaching effects.

EMCON's approach of the combined use of a video, printed materials, lesson plans, and speakers will reach the largest number of people, both adults and children, on many levels (intellectual, emotional, personal, etc.). People learn by different methods, and EMCON has put together a program that is visual, audio, and hands-on. The more people who can be reached the better the chances of achieving the goals and objectives.

Durability of Benefits / Linkage to Past and Future Projects

EMCON's program can be established so it is reviewed on a regular basis (i.e. annually) with updates, changes, and addenda being incorporated as deemed necessary. This would help to ensure continuing benefits (the populations is kept well informed and up to date), as well as increase the longevity of the program. In this regard, the content material could easily be linked to any relevant past or future CalFed projects.

Linkages

Each of CalFed's goals is restated below with a brief explanation of how this proposal addresses and supports the goal. The linkages which are included reference specific page numbers in the *February 1999 Revised Draft of the Ecosystem Restoration Program Plan, (ERP) Volumes 1 and 2*. Because ERP Volume 2 deals more specifically with each individual ecological management zone, it is not referenced as frequently as ERP Volume 1, which presents the goals and objectives in a more generalized manner. However, many of the ideas included here also have a direct relevance to ERP Volume 2, and Volume 2 page 1 can be cited as a linkage for all of the goals listed below.

Goal 1 - Native Species Recovery and Conservation. Part of the education program presented in this proposal will include a information on water management and the protection of the listed species (e.g. Delta Smelt, Splittail, Chinook Salmon, Steelhead Trout, Longfin Smelt, and many other listed flora and fauna species). By providing basic information on delta wildlife, public awareness will be increased, leading to a greater concern for their protection. In addition, it can be assumed that non-listed species will also benefit from this general increase in public awareness.

Linkages: Specific topics and objectives which the educational program will meet with regards to this goal can be found in ERP Volume 1, pages 32, 103, 1760181, 190, 238, 288, and 344; and in ERP Volume 2, pages 18-20.

Goal 2 - Rehabilitation and Protection of Natural Processes. An educational program for the general public would considerably aid in the rehabilitation and protection of the natural processes occurring in the delta ecosystem. To meet this goal the public needs to have a basic understanding of the various ecological processes and their interaction (i.e. how one action by one individual can have far-reaching effects). EMCON's educational program would be the vehicle for instigating this type of awareness. As previously stated, when given information and specific tasks which each individual can do, that person becomes more likely to conduct himself in a way that will not cause additional harm to the ecosystem and may even reverse some of the damage that has already taken place. EMCON's program will educate people in ecosystem processes, species, habitats, and provide concrete examples of what can be done to maintain this ecosystem. In addition, the program will have built-in provisions for review and updating so, as new information or techniques are learned, that knowledge can be passed on to the public.

Linkages: The goal-specific strategic objectives that an educational program will meet can be found in ERP Volume 1, pages 20, 42, 103, 104, and 419-421.

Goal 3 - Recreational and Commercial Species. An educational program would inform people about the plight of specific species which they may already have a personal interest in, either recreationally or as a consumable. This would include such species as Striped Bass, Sturgeon, or certain types of waterfowl. Educating the population on individual species and making them aware of the problems these species face would greatly aid in their protection.

Linkages: Specific objectives, which an educational program would help meet, can be found in Volume 1, pages 176- 203, 344, and 394.

Goal 4 - Habitat Protection and Restoration. To ensure habitat protection and restoration the public needs to understand what a habitat is, and know which human activities are harmful and which ones are potentially beneficial to that habitat. An educational program can help meet this goal by showing, on a personal level, the benefits to be had by preserving the various habitat types. Specifically, EMCON's proposed video is an excellent medium for promoting the aesthetic values of the different habitats, which is something most people can directly relate to.

Linkages: The educational program would help meet the objectives found in Volume 1, pages 30-32 and 102-104.

Goal 5 - Introduced Species. An educational program can do much to support the goal of halting the introduction of new species into the delta. People have to know what "not to do" to stop harmful practices, in this case, recognizing non-native species and their potential to be devastatingly harmful to the ecosystem.

Linkages: References to strategic objectives with regard to this goal, which EMCON's educational plan will help meet, include those found in Volume 1, pages 420, 421, and 424.

Goal 6 - Water Quality. Poor water quality (i.e. pollution) is one area where the general public can be of great assistance. An educational program can help meet this goal by providing individuals with the necessary knowledge of 1) what pollutants are. Besides the printed materials that will be developed, a video will have a significant impact in getting across the importance of water quality to the delta ecosystem.

Linkages: A reference to this objective can be found in Volume 1, page 421.

System-wide Ecosystem Benefits/Compatibility with Non-Ecosystem Objectives

Once educated with regard to the Delta, many people will have an increased awareness of the environment in general. The benefits of this increased awareness will reach into other projects and programs within the watershed thus leading to system-wide ecosystem benefits as well as compatibility with other CalFed objectives such as water quality. Individuals will have a general knowledge of ecosystems, at-risk species, pollution, and know the environmentally friendly actions that they should practice.

Potential Benefits to Third Parties

The repercussions of an educational program such as this one can have far-reaching positive effects and provide major benefits to any group that is concerned with the human population coexisting with our many fragile ecosystems. As previously stated, the benefits include an increase in awareness and concern, and the knowledge of environmentally-sound practices with regards to preserving at-risk species and preventing pollution.

Summary

All the goals and objectives of the CalFed Bay-Delta Program can be supported by the implementation of a public education program. The repercussions of an educational program such as this one can have far-reaching positive effects on other goals and objectives of CalFed as well as providing major benefits to any group that is concerned with the human population coexisting with the many fragile ecosystems. The multi-media educational program which EMCON proposes provides the best possible arena for ensuring that the most current, accurate information is passed on to and understood by the largest number of people.

Technical Feasibility and Timing

The proposed scope of services presents several methods for environmental education (pamphlets, videos, overheads/slides, speakers, and lesson plans). However, other educational methods such as media via radio, network television, newspapers, and other publications were not considered. In addition, use of materials written and/or spoken in other languages were not presented. If CalFed staff would prefer these types of environmental education added to our scope of services or in place of specific tasks, we would be willing to negotiate these other alternative methods.

No CEQA, NEPA, or other environmental compliance documents are anticipated as being required for this project.

Outstanding implementation issues may include obtaining CalFed approval of draft materials prepared; however, this is not considered to be a significant issue. EMCON will work with CalFed staff to produce materials acceptable to the needs of the program objectives.

SACIN:PROMP99/P9903071 AS 99cdolan:l

Monitoring and Data Collection Methodology

This proposal question/hypothesis is: Will education of people ages 12 and up of the importance of a healthy Bay-Delta ecosystem lead to an increase in public support for 1) water conservation, 2) wise use potential contaminants within the Bay Delta watershed, and 3) ecosystem restoration efforts?

In order to monitor if these questions are being answered, EMCON will conduct before and after user surveys. A survey of people ages 13 and up in *Wildland Weeds* (Spring 1999) "Public Unawareness of Biological Invasions by Plants" (Peter Alpert of the Department of Biology, Amherst Massachusetts and Thomas F. Colton of the Biological Science Learning Center, University of Chicago) indicated an alarming ignorance among those surveyed of what plants (either native or non-native) that are problematic.

It is important for people living within the Bay Delta watershed to be informed on important topics such as this in order to contribute to problem resolutions instead of contributing to creating additional problems. Thus, by conducting before and after surveys, we will be able to measure progress to obtaining our stated goal: To educate the existing and future users of the Bay Delta in order that they may understated the importance of a healthy delta ecosystem. The benefits of this goal, if accomplished will be that people will be more willing to: 1) conserve water, 2) wisely use potential contaminants within the Bay Delta watershed, and 3) assist with ecosystem restoration efforts. Questions regarding people's basic knowledge of the Bay-Delta, if they are conserve water, wisely use potential contaminants, and participate in restoration efforts will be posed in the "before" surveys. The "after" surveys will be conducted six to 12 months after the educational materials have been used via e-mail and telephone. These questions will be aimed at finding out if participants still are applying the knowledge gained from the educational materials.

See the attached table for monitoring specifics.

Local Involvement

Notification

EMCON has contacted the Sacramento County Board of Supervisors and Planning Department via mail to inform them of our proposal submittal (see Attachment A).

EMCON has also contacted Ms. Diane Hickson of the California Department of Fish and Game (CDFG) and Mr. Mike Eaton, of the Nature Conservancy and Project Manager of the Consumnes River Preserve. Ms. Hickson indicated that the CDFG would provide information regarding fish and wildlife within the Bay Delta for the preparation of the proposed educational materials as part of their public service program. Likewise, Mr. Eaton indicated that the Nature Conservancy would work with EMCON by allowing us to video tape and/or photograph portions of the Consumnes River Preserve for our educational program. Both parties said their organizations have staff that would be willing to be interviewed for the purpose of providing education on the CalFed Bay Delta ecosystem to people ages 12 and up.

Public Outreach

Public outreach is a critical factor when dealing with any educational program. The best materials are worthless if the target audience is unaware of their existence or if they are not used. Keeping this in mind, EMCON has planned a comprehensive outreach program that is summarized below.

Upon completion of the environmental education program, an announcement/information letter explaining the program and the materials/services available through the program will be sent to select agencies and organizations. The target region will include all areas that are located within the entire Bay-Delta Region. The groups/organizations which EMCON has identified include, but are not limited to, the following:

- School Districts
- County Boards of Supervisors
- City Councils
- Chambers of Commerce
- Community Organizations such as Boy Scout Councils, Rotary Clubs, Watershed groups, etc.

EMCON will also consider other methods of public outreach such as public radio or television announcements, or public notices/flyers, if it is felt these are needed to reach additional audiences that are not being covered in the targeted letters.

Third Party Impacts

This proposal will not adversely affect third parties but instead will assist others by providing education on the overall CalFed program goals, objectives, and restoration efforts.

Cost: \$161,468

Details are included within the attached Table.

The Project Management Task includes costs associated with tracking accomplishment of a specific tasks including inspection of work in progress, validation of costs, preparation of periodic reporting requirements, response to project specific questions and project oversight.

Our overhead and indirect costs do not exceed 25 percent of direct salary and benefits. We do charge a 3 percent fee based on labor for communications.

See the attached schedule for proposed task completions.

Cost-sharing

Not applicable.

Applicant Qualifications

EMCON provides comprehensive environmental engineering, consulting, and construction management services. The firm is publicly held, and has been developing environmentally safe, technically sound, cost-effective solutions for environmental concerns since 1971. The firm's technical specialists, including geologists and hydrogeologists; chemists; engineers; trainers, and toxicologists; serve EMCON's diverse clientele in the public and private sectors. EMCON has successfully solved thousands of environmental problems for a variety of industries, on time and within budget. More than 1,000 technical and support staffpersons serve clients from over 60 offices nationwide.

In addition, EMCON has years of practical experience in offering training, and its personnel develop and deliver dozens of training programs each year. EMCON works directly with clients to develop and deliver effective, cost-efficient training programs that incorporate existing plans, procedures, and operational requirements.

Project Team

This project will be staffed with a team of experienced professionals consisting of EMCON employees: Barbara Heinsch, as the Project Manager, JoEllen Strait, Bruce McAlister, and Jefferey Peterson. Lief Joslyn of Xenobiota Xposures will be working with EMCON as the video cinematographer. Both Ms. Heinsch and Ms. Strait have extensive experience in the preparation of training/teaching materials and in the presentations of these materials as well. Each team member and their role for this project are listed below along with brief summaries of their qualifications.

Barbara Heinsch, Project Manager. Ms. Heinsch has a BS degree in Environmental Policy Analysis and Planning from the University of California, Davis and is very familiar with the CalFed Bay-Delta Region. At EMCON, as an Environmental Scientist, she trains staff and clients on statistical applications and in addition, prepares solid waste management planning and permitting documents; tracks environmental legislation and regulations; evaluates solid waste and groundwater management programs; analyzing water quality and soil data; and conducting environmental studies. She also prepares groundwater monitoring reports and performs statistical analyses. She is the current President of the Sacramento Chapter of Groundwater Resources Association.

Past experience includes working for the California State Department of Water Resources, which involved conducting water quality sampling and testing throughout the Sacramento-San Joaquin Delta area, compiling and analyzing water quality data for environmental reports, and analyzing and writing data summary reports. Ms. Heinsch also worked for a non-profit agency managing contracts with field agencies who provide training and technical assistance to rural communities on water and wastewater issues, developing resource materials, preparing guidance documents and conducting training sessions.

JoEllen Strait, Curriculum Content. Ms. Strait has a BS degree in Geology from the State University College of New York at Oneonta, and received a teaching credential in junior and senior high physical science and math from Washington State University in Pullman, Washington. Ms. Strait has been employed by EMCON for 7 years and, as part of EMCON's administrative support staff, serves as marketing coordinator for southern California. Ms. Strait assists in proposal and report preparation, data base construction and maintenance, and the creation of tables, graphs, presentations, and marketing materials in application programs such as Word, Excel, Pagemaker, Powerpoint, Org Plus, and Microsoft Project. She will also be assisting with the preparation of materials for and the technical staff training in the use of a recently installed marketing database program.

Ms. Strait has previously been employed as an instructor in physical geology and physical geography at a community college. Her curriculum included concepts in basic earth science, and class content was a combination of lecture, demonstrations, and laboratory exercises. Ms. Strait has also prepared and given presentations to elementary school classes on various topics of geology such as earthquakes, fossils, etc. These presentations included age-appropriate "lectures", demonstrations, worksheets, and student participation activities. Ms. Strait continues to be involved in the education of school-age children through volunteer work.

Bruce McAlister, PH.D., Wetland and Fisheries. Dr. McAlister holds a BS degree in mathematics, MS and PH.D. degrees in oceanography, and a JD in Law. He provides environmental sciences expertise gained in over 30 years of experience in scientific research and consulting. Before joining EMCON, Dr. McAlister was an environmental consultant responsible for the preparation of environmental assessments and environmental impact statements. He was formerly the Deputy Director of the National Marine Mammal Laboratory of the National Marine Fisheries Service in Seattle, and he has served as the Program Director for physical and chemical oceanography for the National Science Foundation in Washington, D.C. He has taught in several university oceanography departments and presently teaches Environmental Law.

Dr. McAlister's recent work has been in the area of compliance with a wide range of environmental regulations, including the National Environmental Policy Acts (NEPA), National Pollutant Discharge Elimination System (NPDES) permits, wetlands, hazardous waste, and landfills. He presently serves on a DOE panel evaluating proposed regulations for remediation and pollution from marine aquaculture programs. He continues to participate in field programs as well as hold advisory and supervisory positions at EMCON.

Jeffrey A. Peterson, PH.D. Zoologist and Biologist. Dr. Peterson hold BS and MS degrees in zoology and a PH.D. in integrative biology. He is a senior ecologist who specializes in ecological risk assessments, habitat evaluations, wetlands delineation, and management of fish and wildlife populations. Dr. Peterson has over 6 years of experience performing assessments of the risks that hazardous compounds pose to ecological receptors. He has performed both qualitative and quantitative ecological risk assessments at numerous sites in the western United States and has assessed the risks that exposure to chemicals in soil, sediment, and surface water may pose to a variety of terrestrial, aquatic, and benthic organisms. Dr. Peterson's work has evaluated dioxins, volatile organic compounds (VOCs), pesticides, polycyclic aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), pentachlorophenol (PCP), and heavy metals. His assessment experience includes both individual- and population-level responses to contaminants.

Dr. Peterson has a broad background in both theoretical and applied ecology and has made important contributions to the U.S. Environmental Protection Agency's (USEPA) efforts to develop water quality criteria protective of wildlife.

Lief Joslyn, Cinematographer. Mr. Joslyn will serve as our proposed team's cinematographer. Mr. Joslyn received an M.S. in Natural Resources from California State University Humboldt, where he focused on biological invasions as a threat to biodiversity, particularly terrestrial plant invasions in California. Mr. Joslyn holds a B.S in biology and geography, which he received from Southern Oregon University. In 1998 he formed Xenobiota Xposures, a video production company dedicated to generating educational programs on the impact of invasive species.

Compliance with Standard Terms and Conditions (Coming from Risk Management)

EMCON's Risk Management Department reviewed the "CALFED BAY-DELTA PROGRAM Ecosystem Restoration Projects and Programs, February 1999, Proposal Solicitation Package" and find that while most provisions are acceptable in their entirety, we reserve the right to negotiate and propose modifications to limited portions of the Contract including but not limited to clauses relating to the "Standard of Professionalism" and "Indemnity." The proposal for modifications to contract language reflect fair risk allocations for the services to be provided and environmental industry standards for consultants on these issues. Additions are indicated by underscore and deletions by strike-through.

Attachment D Terms and Conditions for State (CALFED) Funds

7. **Standard of Professionalism:** Contractor shall conduct all work consistent with the professional standards for the industry and type of work being performed under the contract at the time services are performed subject to any limitations established by Client as to degree of care, time or expense to be incurred or other limitations of this Contract.

9. **Indemnification:** The Contractor agrees to indemnify, defend and hold harmless the CALFED agencies, the State of California, the Resources Agency, Department of Water Resources, and National Fish and Wildlife Foundation and their officers, agents and employees from any and all claims and losses to the extent that such claims and losses accrue accruing or resulting to any or all contractors, subcontractors, material persons, laborers, and any other person, firm or corporation furnishing or supplying work services, materials or supplies in connection with the breach of contract, willful misconduct or negligent performance of this contract, and to the extent from that such claims and losses accrue accruing or resulting to any person, firm or corporation who may be injured or damaged by the Contractor in the due to the breach of contract, willful misconduct or negligent performance of this contract.

**(Table 2 in Proposal Solicitation)
Environmental Education, CalFed Bay-Delta Program
Ecosystem Restoration Projects and Programs**

I) Biological/Ecological Objectives Once knowledgeable of the problems and what can be done to restore the Bay-Delta, people will be more willing to: 1) conserve water, 2) wisely use potential contaminants within the Bay-Delta watershed, and 3) assist with ecosystem restoration efforts.			
Hypothesis/Question to be Evaluated	Monitoring Parameter(s) and Data Collection Approach	Data Evaluation Approach	Comments/ Data Priority
Will education of people ages 12 and up of the importance of a healthy Bay-Delta ecosystem lead to an increase in public support for 1) water conservation, 2) wise use potential contaminants within the Bay Delta watershed, and 3) ecosystem restoration efforts?	Before and after surveys	Questions regarding conservation of water, wise use potential contaminants, and participation in restoration efforts will be posed in the "before" surveys. The "after" surveys will be conducted six to 12 months after the educational materials have been used via e-mail and telephone.	These questions will be aimed at finding out if participants still are applying the knowledge gained from the educational materials.

Total Budget
(Table 3 in Proposal Solicitation)
Environmental Education
CalFed Bay-Delta Program
Ecosystem Restoration Projects and Programs

Task	Direct Labor Hours	Direct Salary and Benefits	Service Contracts	Material and Acquisition Costs	Miscellaneous and Other Costs	Overhead and Indirect Costs [1]	Total Cost per Task in bold
Task 1 - Educational Pamphlet			N/A	N/A			\$25,058
Prepare Draft [2]	60	\$5,100				\$153	\$5,253
Prepare Final [2]	40	\$3,400				\$102	\$3,502
Distribute 500 copies [3, 4]	8	\$440			\$15,000	\$13	\$15,453
Proj. Mgmt. Task *	11	\$825				\$25	\$850
Task 2 - Overheads and Slides			N/A	N/A			\$16,494
Prepare Draft [2]	40	\$3,400				\$102	\$3,502
Prepare Final [2]	20	\$1,700				\$51	\$1,751
Distribute 500 copies [3, 5]	8	\$680			\$10,000	\$20	\$10,700
Proj. Mgmt. Task *	7	\$525				\$16	\$541
Task 3 - Speaker for Hire			N/A	N/A			\$15,186
Train-the-Trainer Sessions w/in Bay-Delta area [2, 6]	72	\$6,120			\$1,800	\$184	\$8,104
Guest Speaker w/in Bay-Delta area [2, 7]	54	\$4,590			\$1,350	\$138	\$6,078
Proj. Mgmt. Task *	13	\$975				\$29	\$1,004
Task 4 - Lesson Plan			N/A	N/A			\$8,366
Prepare Draft [2]	32	\$2,720				\$82	\$2,802
Prepare Final [2]	16	\$1,360				\$41	\$1,401
Distribute 100 copies [3, 8]	8	\$680			\$3,000	\$20	\$3,700
Proj. Mgmt. Task *	6	\$450				\$14	\$464
Task 5 - Video - Healing the Waters			N/A	N/A			\$48,869
Draft Outline [2]	40	\$3,000				\$90	\$3,090

Total Budget
(Table 3 in Proposal Solicitation)
Environmental Education
CalFed Bay-Delta Program
Ecosystem Restoration Projects and Programs

Pre-production [9]	150	\$7,500				\$225	\$7,725
Production [9, 10]	80	\$4,000			\$3,000	\$120	\$7,120
Post-production [9, 11]	225	\$11,250			\$10,000	\$338	\$21,588
Distribution of 300 videos [3, 12]	16	\$880			\$4,500	\$26	\$5,406
Proj. Mgmt. Task *	51	\$3,825				\$115	\$3,940
Task 6 - Video - Alien Bullies			N/A	N/A			\$47,495
Draft Outline [2]	40	\$3,000				\$90	\$3,090
Pre-production [9]	140	\$7,000				\$210	\$7,210
Production [9, 10]	80	\$4,000			\$3,000	\$120	\$7,120
Post-production [9, 13]	180	\$9,000			\$12,000	\$270	\$21,270
Distribution of 300 videos [3, 14]	16	\$880			\$4,500	\$26	\$5,406
Proj. Mgmt. Task *	44	\$3,300				\$99	\$3,399

TOTAL ALL TASKS \$161,468

1 = 3 % fee on labor

2 = Typical billing rate of \$85/hr

3 = Typical billing rate of \$55/hr

4 = Assume reproduction costs of \$10/pamphlet and \$3 postage/pamphlet to 500 different addresses

5 = Assume reproduction of slides and overheads average to be \$10/set and \$2 postage/pamphlet to 500 different addresses

6 = Assumes 6/yr for 3 yrs (18), 4 hrs of speaker's time (includes travel time) and \$100 for misc. expenses (mileage, etc.)

7 = Assumes 6/yr for 3 yrs (18), 3 hrs of speaker's time (includes travel time) and \$75 for misc. expenses (mileage, etc.)

8 = Assumes reproduction of lesson plans averages to be \$10/set and \$3 postage/plan to 100 different addresses

9 = Assumes typical billing rate of \$50/hr

10 = \$1,000 video materials, \$2000 travel & misc. expenses

11 = \$2,000 - music and narration, \$6,000 - graphics (video maps and habitat morphs, etc.), \$2,000 - stock footage

12 = 300 videos at \$5/copy, \$3/video for postage and packaging

13 = \$2,000 - music and narration, \$8,000 - graphics (video maps and habitat morphs, etc.), \$2,000 - stock footage

14 = 300 videos at \$5/copy, \$3/video for postage and packaging

* = 10 % of total labor - includes project mgmt, monitoring of task hypothesis and local involvemt. efforts

Quarterly Budget
(Table 4 in Proposal Solicitation)
Environmental Education
CALFED Bay-Delta Program
Ecosystem Restoration Projects and Programs

Task	Quarterly Budget Oct-Dec 99	Quarterly Budget Jan-Mar 00	Quarterly Budget Apr-Jun 00	Quarterly Budget Jul-Sep 00	Quarterly Budget Oct-Dec 00	Total Budget
Task 1 - Educational Pamphlet	\$24,208					\$24,208
Task 2 - Overheads and Slides	\$15,953					\$15,953
Task 3 - Speaker for Hire	\$8,509	\$1,418	\$1,418	\$1,418	\$1,418	\$14,181
Task 4 - Lesson Plan	\$7,903					\$7,903
Task 5 - Video - Healing the Waters	\$22,464	\$13,479	\$8,986			\$44,929
Task 6 - Video - Alien Bullies	\$22,048	\$8,819	\$8,819	\$4,410		\$44,096
Project Management Task	\$6,118	\$2,039	\$1,020	\$816	\$204	\$10,197
TOTAL	\$107,204	\$25,755	\$20,243	\$6,644	\$1,622	\$161,468



Figure 1

Healing the Waters: A Vision for California's Bay-Delta Ecosystems

A 24 Minute Video

Part 1. Introduction (5 minutes)

Thousands of waterfowl on a body of water fill the screen, making a cacophony of noise. Then close-up images of otter, salmon, smelt, insects and other wildlife keep the pace as the narrator explains how verdant and diverse the bay/delta ecosystems are. A biologist explains in a concise wording some of the most important ecological features of this area. Fade.



Part 2. Delta Problems (12 minutes)

Images of sailboats, a fisherman, and children swimming with tranquil notes give a sense of peace and languor. The narrator notes the many benign recreational opportunities, but then observes that these are not the only demands placed upon the system. A heavy fog horn blows as thousands of ducks explode into flight, and the prow of a ship surges toward the viewers...

A person works on his car on the street, then pitches an empty hazardous waste container into a gutter and drives off. A storm fills the gutter and sweeps the bottle into a stream and journey of troubles. We follow the container as it floats from the storm drain to the river and heads into the Bay-Delta. Endangered fish and wildlife are juxtaposition with expert testimony on the problems of non-point source pollution, solid waste, erosion, dams, levees and other human activities that impact the bay/delta environment...

As the bottle passes some brine the problems of salinization and fertilizer pollution are presented. Finally a child plucks the bottle out of the tide water and her parent opens a garbage bag. The camera zooms out to a cleanup crew.

Part 3. Restoration (8 minutes)

Surveys of some of the many restoration efforts now underway around the bay/delta are portrayed with enthusiastic testimonies about the fun, gratification and importance of preservation and restoration. Cooperation, volunteerism, research, science, and intergenerational commitment are some of the key themes presented. The conclusion invites viewers to join in the effort.



Figure 2

Alien Bullies: Invasive Species in California's Bay Delta Ecosystems

A 21 Minute Video

Part 1. Introduction (4 minutes)

Title/theme track. (b) Preface by celebrity host on the Cal/Fed Bay-Delta vision and the growing threat of invasive species. (c) Geomorphology/biogeography. The formation of the bay/delta is graphically portrayed with a rising sea level after the Pleistocene. The narrator explains how estuaries are dynamic and support an incredible array of wildlife. Otters, elk, grizzly bears, giant sturgeon and immense oak trees fill the screen as viewers learn about this area's long isolation from much of the rest of North America. "Just another corner of the earth where evolution was at play". The camera zooms out to a satellite view of the bay/delta as the tranquil music fades to silence...

Part 2. Alien Bullies (9 minutes)

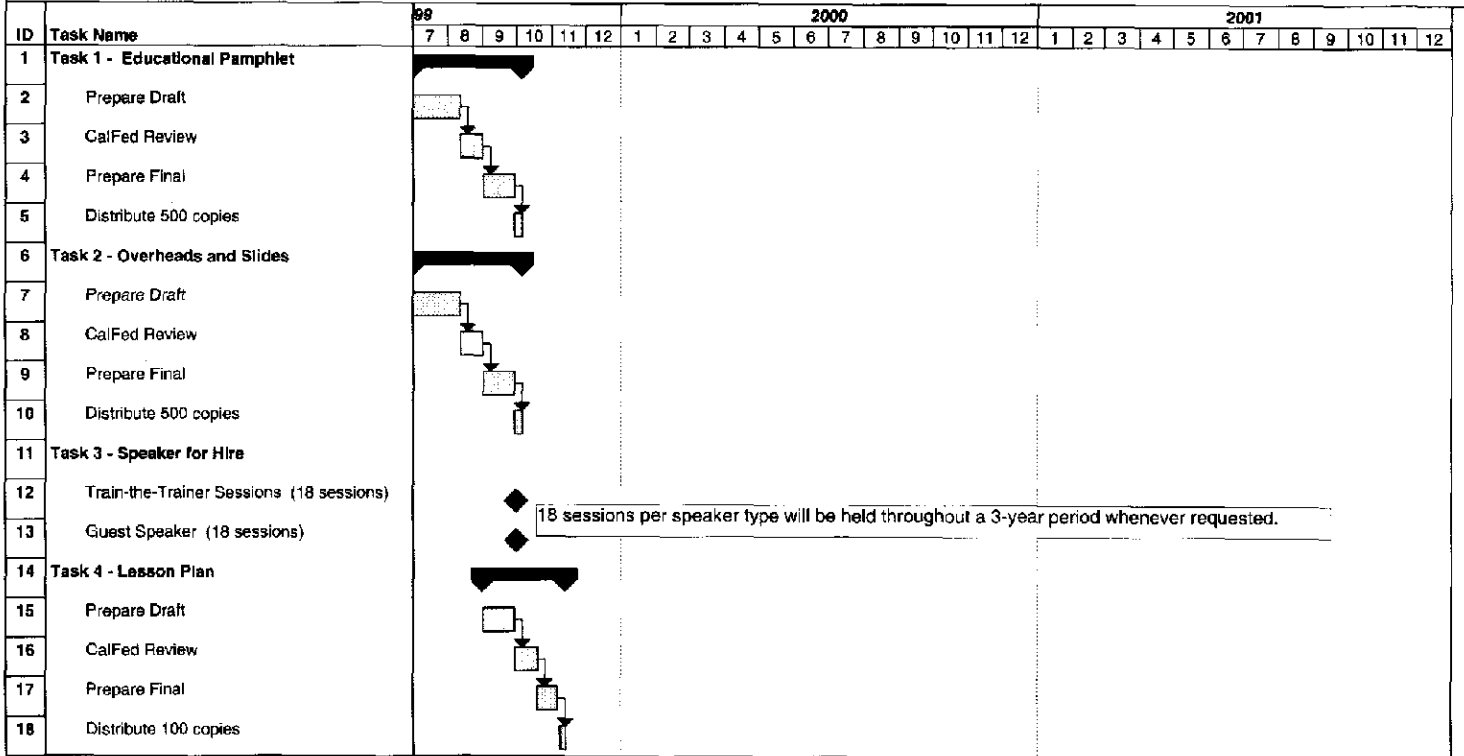
As the camera slowly zooms back, a faint din of noise begins to build. The narrator continues "Now in the space-age, no corner of the planet is an island". The blare of traffic, jack hammers, radio announcers and the like joins staccato music timed with images of refineries, bridges, dams, traffic jams, rock concerts, and super tankers. An environmentalist rattles off some of the main impacts as a result of industry and technology. "Equally dramatic" the narrator adds, "have been the biological invasions that have come in our wake". A biologist (A. Cohen) comments on the immense upheavals caused by introduced species in the bay/delta. A roster follows portraying how entire ecosystems have been transformed by species like Asian clams, ship worms, and Atlantic mudsnails. Another suite of examples exposes emerging ecological and economic threats from invaders like Atlantic cordgrass, Northern pike, the European green crab and Chinese mitten crab. Graphics show their origin and rapid spread throughout bay/delta ecosystems. A sense of urgency is built.

Part 3. Solutions (8 minutes)

A conservationist emphasizes that there are many opportunities to protect or restore the great natural heritage of this area. Prevention is given its due with discussions of ballast water regulations and the 100th Meridian Project (to keep out the zebra mussel). Cooperative control efforts like Team Arundo Del Norte are encouraged, as is education, volunteerism and good corporate citizenship. The conclusion reiterates the Cal/Fed vision and invites viewers participation with shots of healthy children, shore birds, and sunset.



Proposed Schedule for Environmental Education CalFed Bay-Delta Ecosystem Restoration



18 sessions per speaker type will be held throughout a 3-year period whenever requested.

Project: Environ. Education
Date: 4/16/99

Task



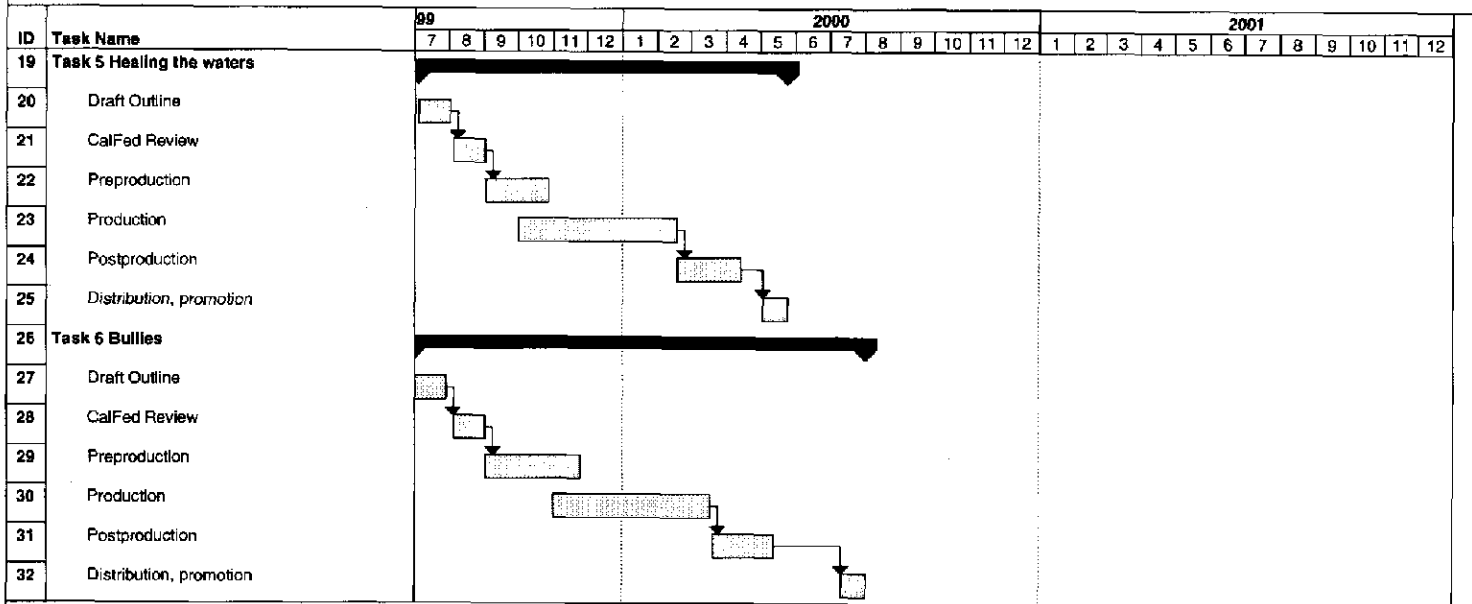
Milestone



Summary

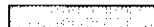


Proposed Schedule for Environmental Education CalFed Bay-Delta Ecosystem Restoration



Project: Environ. Education
Date: 4/16/99

Task



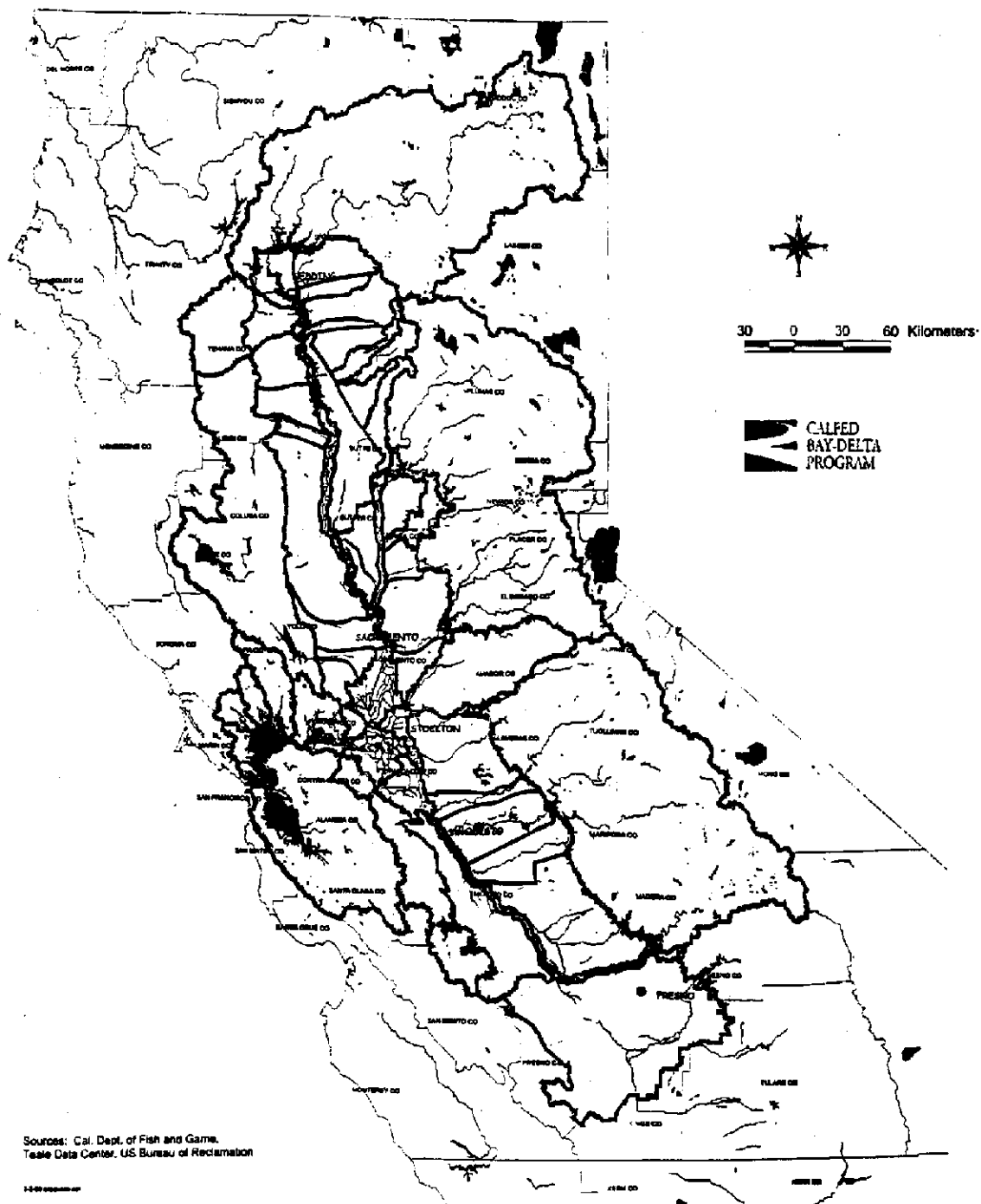
Milestone



Summary



FEBRUARY 1999 PROPOSAL SOLICITATION GEOGRAPHIC SCOPE



I - 0 2 1 0 3 3

I-021033

NONDISCRIMINATION COMPLIANCE STATEMENT

STD. 18 (REV. 3-85) FMC

COMPANY NAME

EMCON

The company named above (hereinafter referred to as "prospective contractor") hereby certifies, unless specifically exempted, compliance with Government Code Section 12990 (a-f) and California Code Regulations, Title 2, Division 4, Chapter 5 in matters relating to reporting requirements and development, implementation and maintenance of a Nondiscrimination Program. Prospective contractor agrees not to unlawfully discriminate, harass or allow harassment against any employee or applicant for employment because of sex, race, color, ancestry, religious creed, national origin, disability (including HIV and AIDS), medical condition (cancer), age, marital status, denial of family and medical care leave and denial of pregnancy disability leave.

CERTIFICATION

I, the official named below, hereby swear that I am duly authorized to legally bind the prospective contractor to the above described certification. I am fully aware that this certification, executed on this date and in the county below, is made under penalty of perjury under the laws of the State of California.

OFFICIAL'S NAME

Julian C. Isham

DATE EXECUTED

4/16/99

EXECUTED IN THE COUNTY OF

Sacramento

PROSPECTIVE CONTRACTOR'S SIGNATURE

PROSPECTIVE CONTRACTOR'S TITLE

Geology Manager

PROSPECTIVE CONTRACTOR'S LEGAL BUSINESS NAME

Julian C. Isham

**STANDARD CLAUSES -
SMALL BUSINESS PREFERENCE AND CONTRACTOR IDENTIFICATION NUMBER**

NOTICE TO ALL BIDDERS:

Section 14835, et. seq. of the California Government Code requires that a five percent preference be given to bidders who qualify as a small business. The rules and regulations of this law, including the definition of a small business for the delivery of service, are contained in Title 2, California Code of Regulations, Section 1896, et. seq. A copy of the regulations is available upon request. Questions regarding the preference approval process should be directed to the Office of Small and Minority Business at (916) 322-5060. To claim the small business preference, you must submit a copy of your certification approval letter with your bid.

Are you claiming preference as a small business?

_____ Yes*

☒ No

*Attach a copy of your certification approval letter.

APPLICATION FOR FEDERAL ASSISTANCE

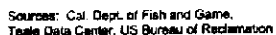
OMB Approval No. 0348-0045

1. TYPE OF SUBMISSION: Application <input type="checkbox"/> Construction <input checked="" type="checkbox"/> Non-Construction Preapplication <input type="checkbox"/> Construction <input type="checkbox"/> Non-Construction		2. DATE SUBMITTED APRIL 16, 1999	Applicant Identifier																					
		3. DATE RECEIVED BY STATE	State Application Identifier																					
		4. DATE RECEIVED BY FEDERAL AGENCY	Federal Identifier																					
5. APPLICANT INFORMATION																								
Legal Name: EMCON		Organizational Unit: EMCON																						
Address (give city, county, State, and zip code): SACRAMENTO SACRAMENTO COUNTY, CA 95834		Name and telephone number of person to be contacted on matters involving this application (give area code): BARBARA HEINSCH (916) 928-3300																						
6. EMPLOYER IDENTIFICATION NUMBER (EIN): 94-1738964		7. TYPE OF APPLICANT: (enter appropriate letter in box) <div style="display: flex; justify-content: space-between;"> <div> A. State B. County C. Municipal D. Township E. Interstate F. Intermunicipal G. Special District </div> <div> H. Independent School Dist. I. State Controlled Institution of Higher Learning J. Private University K. Indian Tribe L. Individual M. Profit Organization N. Other (Specify) _____ </div> </div> <div style="text-align: right; margin-top: -20px;"> <input checked="" type="checkbox"/> M </div>																						
8. TYPE OF APPLICATION: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision If Revision, enter appropriate letter(s) in box(es) <input type="checkbox"/> <input type="checkbox"/> A. Increase Award B. Decrease Award C. Increase Duration D. Decrease Duration Other (specify): _____		9. NAME OF FEDERAL AGENCY: CAL FED																						
10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER: <div style="border: 1px solid black; width: 100px; height: 20px; margin: 5px auto;"></div> TITLE: _____		11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT: ENVIRONMENTAL EDUCATION SEE ATTACHED EXECUTIVE SUMMARY																						
12. AREAS AFFECTED BY PROJECT (Cities, Counties, States, etc.): CAL FED BAY-DELTA AREA - SEE ATTACHED MAP																								
13. PROPOSED PROJECT Start Date: 7/1/99 Ending Date: 6/30/02		14. CONGRESSIONAL DISTRICTS OF: 1, 6, 7, 8, 9, 10, 12, 13, 14, 15, 16 & 18																						
15. ESTIMATED FUNDING: 161,468		16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS? a. YES. THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON: DATE _____ b. No. <input checked="" type="checkbox"/> PROGRAM IS NOT COVERED BY E. O. 12372 <input type="checkbox"/> OR PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW																						
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">a. Federal</td> <td style="width: 10%;">\$</td> <td style="width: 10%; text-align: right;">00</td> </tr> <tr> <td>b. Applicant</td> <td>\$</td> <td style="text-align: right;">00</td> </tr> <tr> <td>c. State</td> <td>\$</td> <td style="text-align: right;">00</td> </tr> <tr> <td>d. Local</td> <td>\$</td> <td style="text-align: right;">00</td> </tr> <tr> <td>e. Other</td> <td>\$</td> <td style="text-align: right;">00</td> </tr> <tr> <td>f. Program Income</td> <td>\$</td> <td style="text-align: right;">00</td> </tr> <tr> <td>g. TOTAL</td> <td>\$</td> <td style="text-align: right;">00</td> </tr> </table>		a. Federal	\$	00	b. Applicant	\$	00	c. State	\$	00	d. Local	\$	00	e. Other	\$	00	f. Program Income	\$	00	g. TOTAL	\$	00	17. IS THE APPLICANT DELINQUENT ON ANY FEDERAL DEBT? <input type="checkbox"/> Yes If "Yes," attach an explanation. <input checked="" type="checkbox"/> No	
a. Federal	\$	00																						
b. Applicant	\$	00																						
c. State	\$	00																						
d. Local	\$	00																						
e. Other	\$	00																						
f. Program Income	\$	00																						
g. TOTAL	\$	00																						
18. TO THE BEST OF MY KNOWLEDGE AND BELIEF, ALL DATA IN THIS APPLICATION/PREAPPLICATION ARE TRUE AND CORRECT, THE DOCUMENT HAS BEEN DULY AUTHORIZED BY THE GOVERNING BODY OF THE APPLICANT AND THE APPLICANT WILL COMPLY WITH THE ATTACHED ASSURANCES IF THE ASSISTANCE IS AWARDED.																								
a. Type Name of Authorized Representative JONIAN C. ISHAM		b. Title EXECUTIVE MANAGER																						
d. Signature of Authorized Representative 		c. Telephone Number (916) 928-3300 e. Date Signed APRIL 16, 1999																						

Previous Edition Usable
Authorized for Local Reproduction

Standard Form 424 (Rev. 7-97)
Prescribed by OMB Circular A-102

FEBRUARY 1999 PROPOSAL SOLICITATION GEOGRAPHIC SCOPE



Executive Summary for Proposal for Environmental Education

This proposal outlines an educational program to provide increased public awareness of the CalFed Bay-Delta ecosystem. An informed public can be a key factor in restoring ecosystem health and improving water management. The entire Bay-Delta watershed will benefit from this scope of services.

Proposal Goal: To educate the existing and future users of the Bay Delta in order that they may understand the importance of a healthy delta ecosystem.

Proposal Benefits: Once knowledgeable of the problems and what can be done to restore the Bay-Delta, people will be more willing to: 1) conserve water, 2) wisely use potential contaminants within the Bay-Delta watershed, and 3) assist with ecosystem restoration efforts.

Proposal Question: Will education of people ages 12 and up of the importance of a healthy Bay-Delta ecosystem lead to an increase in public support for 1) water conservation, 2) wise use potential contaminants within the Bay Delta watershed, and 3) ecosystem restoration efforts?

The proposed scope of work addresses six educational methods summarized as follows:

Task 1 Educational Pamphlet and Task 2 Overheads and Slides - EMCON will prepare an educational pamphlet, overheads, and slides for a presentation to educate children to adults (ages 12 and up) on the problems of the San Joaquin, Sacramento Bay Delta area and what needs to be done to resolve those problems.

Task 3 Speaker For Hire - EMCON will provide staff to those willing to pay for the speaker's time and materials, to present the materials prepared as requested. Both a "train the trainers/teachers" (to educate school teachers, scout leaders, community leaders, etc.) and guest speaker (to talking about CalFed at meetings, associations, etc.) are proposed.

Task 4 Lesson Plan - The lesson plan would be a stand-alone document that incorporates the ideas presented in the Pamphlet and Overheads/Slides. It will include ideas for demonstrations, experiments, worksheets, additional references, and field trips.

Task 5 Video - *Healing the Waters: A Vision for California's Bay/Delta Ecosystems*. The objective would be to impress upon viewers that the vitality and integrity of the Bay Delta ecosystem is our collective responsibility, and to introduce viewers to CalFed Bay-Delta and some of the restoration work under way.

Task 6 Video - *Alien Bullies: Invasive Species in California's Bay Delta Ecosystems*. The objectives of the video would be to impress upon viewers that invasive exotic species (non-native plants, animals, etc.) threaten the vitality and integrity of the bay/delta ecosystems, especially fish habitats.

All the primary biological/ecological objectives of the CalFed Bay-Delta Program can be supported by the implementation of a public education program. The repercussions of an educational program such as this one can have far-reaching positive effects on other goals and objectives of CalFed as well as providing major benefits to any group that is concerned with the human population coexisting with the many fragile ecosystems. The multi-media educational program which EMCON proposes provides the best possible arena for ensuring that the most current, accurate information is passed on to and understood by the largest number of people.

The proposal hypothesis will be monitored by conducting before and after user surveys. It is important for people living within the Bay Delta watershed to be informed on important topics such as this in order

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to contribute to problem resolutions instead of contributing to creating additional problems. Thus, by conducting before and after surveys, we will be able to measure progress to obtaining our stated goal.

EMCON provides comprehensive environmental engineering, consulting, and construction management services. The firm is publicly held, and has been developing environmentally safe, technically sound, cost-effective solutions for environmental concerns since 1971. EMCON has successfully solved thousands of environmental problems for a variety of industries, on time and within budget. More than 1,000 technical and support staffpersons serve clients from over 60 offices nationwide. In addition, EMCON has years of practical experience in offering training, and its personnel develop and deliver dozens of training programs each year. EMCON works directly with clients to develop and deliver effective, cost-efficient training programs that incorporate existing plans, procedures, and operational requirements. This project will be staffed with a team of experienced professionals consisting of EMCON employees: Barbara Heinsch, as the Project Manager, JoEllen Strait, Bruce McAlister, and Jefferey Peterson. Lief Joslyn of Xenobiota Xposures will be working with EMCON as the video cinematographer.

EMCON has contacted Ms. Diane Hickson of the California Department of Fish and Game (CDFG) and Mr. Mike Eaton, of the Nature Conservancy and Project Manager of the Consumnes River Preserve. Ms. Hickson indicated that the CDFG would provide information regarding fish and wildlife within the Bay Delta for the preparation of the proposed educational materials as part of their public service program. Likewise, Mr. Eaton indicated that the Nature Conservancy would work with EMCON by allowing us to video tape and/or photograph portions of the Consumnes River Preserve for our educational program. Both parties said their organizations have staff that would be willing to be interviewed for the purpose of providing education on the CalFed Bay Delta ecosystem to people ages 12 and up.

Upon completion of the environmental education program, an announcement/information letter explaining the program and the materials/services available through the program will be sent to select agencies and organizations. The target region will include all areas that are located within the entire Bay-Delta Region. The groups/organizations which EMCON has identified include, but are not limited to, the following: School Districts, County Boards of Supervisors, City Councils, Chambers of Commerce, Community Organizations such as Boy Scout Councils, Rotary Clubs, Watershed groups, etc.

This proposal will not adversely affect third parties but instead will assist others by providing education on the overall CalFed program goals, objectives, and restoration efforts.

Cost: \$161,468

Details are included within the following text and attached Table.

BUDGET INFORMATION - Non-Construction Programs						
SECTION A - BUDGET SUMMARY						
Grant Program Function or Activity (a)	Catalog of Federal Domestic Assistance Number (b)	Estimated Unobligated Funds		New or Revised Budget		
		Federal (c)	Non-Federal (d)	Federal (e)	Non-Federal (f)	Total (g)
1. CALFED		\$	\$	\$	161,468	\$ 161,468
2.						
3.						
4.						
5. Totals		\$	\$	\$	161,468	\$ 161,468
SECTION B - BUDGET CATEGORIES						
6. Object Class Categories		GRANT PROGRAM, FUNCTION OR ACTIVITY				Total (5)
		(1)	(2)	(3)	(4)	
a. Personnel (INCLUDES b)		\$	\$	\$	90,600	\$ 90,600
b. Fringe Benefits						
c. Travel						
d. Equipment						
e. Supplies					37,000	37,000
f. Contractual					31,150	31,150
g. Construction						
h. Other						
i. Total Direct Charges (sum of 6a-6h)						
j. Indirect Charges					2,718	2,718
k. TOTALS (sum of 6i and 6j)		\$	\$	\$	161,468	\$ 161,468
7. Program Income		\$	\$	\$	\$	\$

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SECTION C - NON-FEDERAL RESOURCES				
(a) Grant Program	(b) Applicant	(c) State	(d) Other Sources	(e) TOTALS
8. CALFED	\$	\$ 161,468	\$	\$ 161,468
9.				
10.				
11.				
12. TOTAL (sum of lines 8 - 11)	\$	\$ 161,468	\$	\$ 161,468

SECTION D - FORECASTED CASH NEEDS					
	Total for 1st Year	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter
13. Federal	\$	\$	\$	\$	\$
14. NonFederal	161,468 (1)	25,755	20,243	6,644	1,622
15. TOTAL (sum of lines 13 and 14)					

SECTION E - BUDGET ESTIMATES OF FEDERAL FUNDS NEEDED FOR BALANCE OF THE PROJECT				
(a) Grant Program	FUTURE FUNDING PERIODS (Years)			
	(b) First	(c) Second	(d) Third	(e) Fourth
16.	\$	\$	\$	\$
17.				
18.				
19.				
20. TOTAL (sum of lines 16-19)	\$	\$	\$	\$

SECTION F - OTHER BUDGET INFORMATION	
21. Direct Charges:	22. Indirect Charges:
23. Remarks: (1) \$107,204 WILL BE SPENT IN 4TH QUARTER 1999	

Quarterly Budget
(Table 4 in Proposal Solicitation)
Environmental Education
CALFED Bay-Delta Program
Ecosystem Restoration Projects and Programs

Task	Quarterly Budget Oct -Dec 99	Quarterly Budget Jan-Mar 00	Quarterly Budget Apr-Jun 00	Quarterly Budget Jul-Sep 00	Quarterly Budget Oct -Dec 00	Total Budget
Task 1 - Educational Pamphlet	\$24,208					\$24,208
Task 2 - Overheads and Slides	\$15,953					\$15,953
Task 3 - Speaker for Hire	\$8,509	\$1,418	\$1,418	\$1,418	\$1,418	\$14,181
Task 4 - Lesson Plan	\$7,903					\$7,903
Task 5 - Video - Healing the Waters	\$22,464	\$13,479	\$8,986			\$44,929
Task 6 - Video - Alien Bullies	\$22,048	\$8,819	\$8,819	\$4,410		\$44,096
Project Management Task	\$6,118	\$2,039	\$1,020	\$816	\$204	\$10,197
TOTAL	\$107,204	\$25,755	\$20,243	\$6,644	\$1,622	\$161,468

ASSURANCES - NON-CONSTRUCTION PROGRAMS

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0040), Washington, DC 20503.


PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the awarding agency. Further, certain Federal awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project cost) to ensure proper planning, management and completion of the project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the award; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
4. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
5. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards for merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
6. Will comply with all Federal statutes relating to nondiscrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and, (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.
7. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal or federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
8. Will comply, as applicable, with provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

9. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333), regarding labor standards for federally-assisted construction subagreements.
10. Will comply, if applicable, with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
11. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) Implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
12. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
13. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq.).
14. Will comply with P.L. 93-348 regarding the protection of human subjects involved in research, development, and related activities supported by this award of assistance.
15. Will comply with the Laboratory Animal Welfare Act of 1966 (P.L. 89-544, as amended, 7 U.S.C. §§2131 et seq.) pertaining to the care, handling, and treatment of warm blooded animals held for research, teaching, or other activities supported by this award of assistance.
16. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
17. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
18. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL 	TITLE EXECUTIVE MANAGER
APPLICANT ORGANIZATION EMCON	DATE SUBMITTED APRIL 16, 1999

Standard Form 424B (Rev. 7-97)